

Headquarters U.S. Air Force

Integrity - Service - Excellence

Jump Start Lessons Learned For Integrated Logistics Systems-Supply (ILS-S) Program



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**Briefer:
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HQ 754 ELSG/ILS (LMI)
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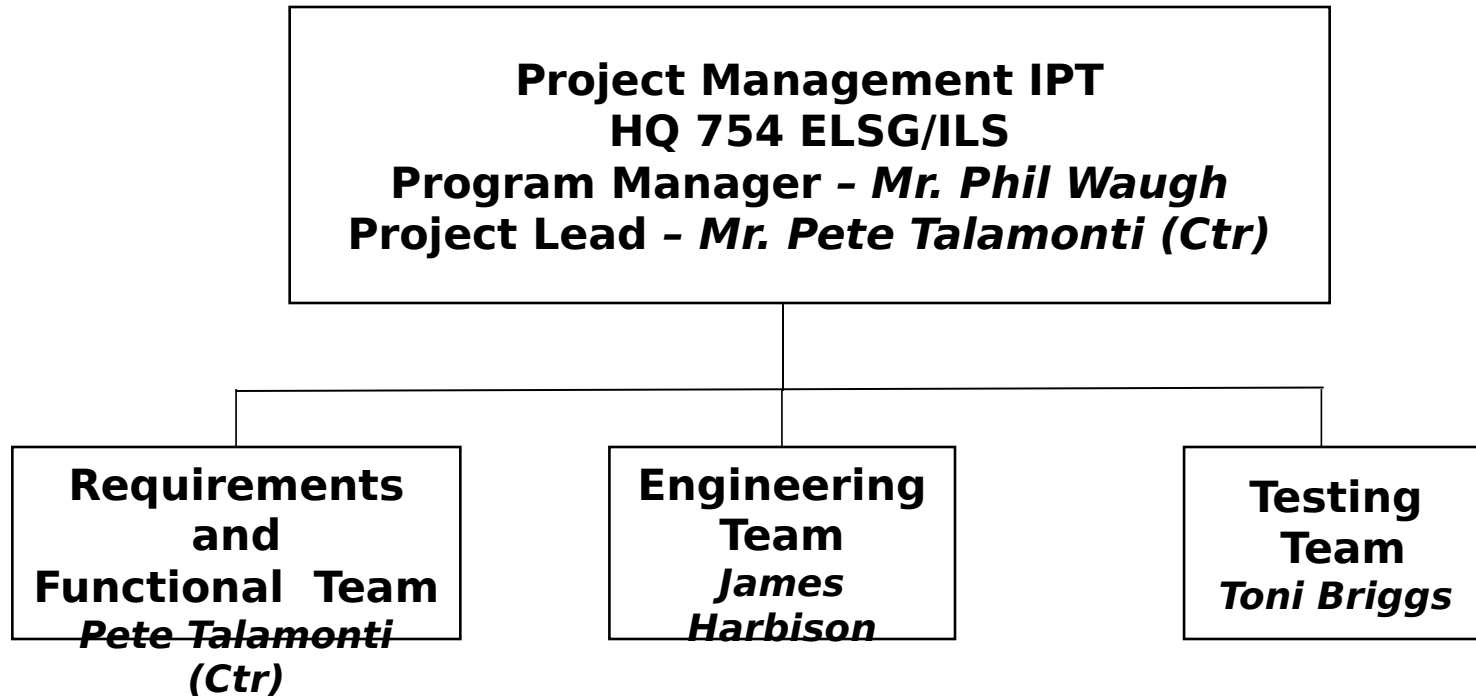
Overview

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Project Organization





Core Team Members

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ILS-S Program Description

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- **ILS-S is the modernized version of the legacy Standard Base Supply System (SBSS)**
- **The SBSS is the standard base level inventory accounting and ordering management system for the Air Force**
- **ILS-S was achieved through implementation of modern information technologies**
- **ILS-S integrates retail and wholesale supply systems and was developed to provide maximum support of the AF flying mission and AF support organizations**

Major Customer: HQ AF/A4

**Users/Scope of System: USAF Supply Personnel -
Worldwide**

Phase of Program: Operations & Sustainment



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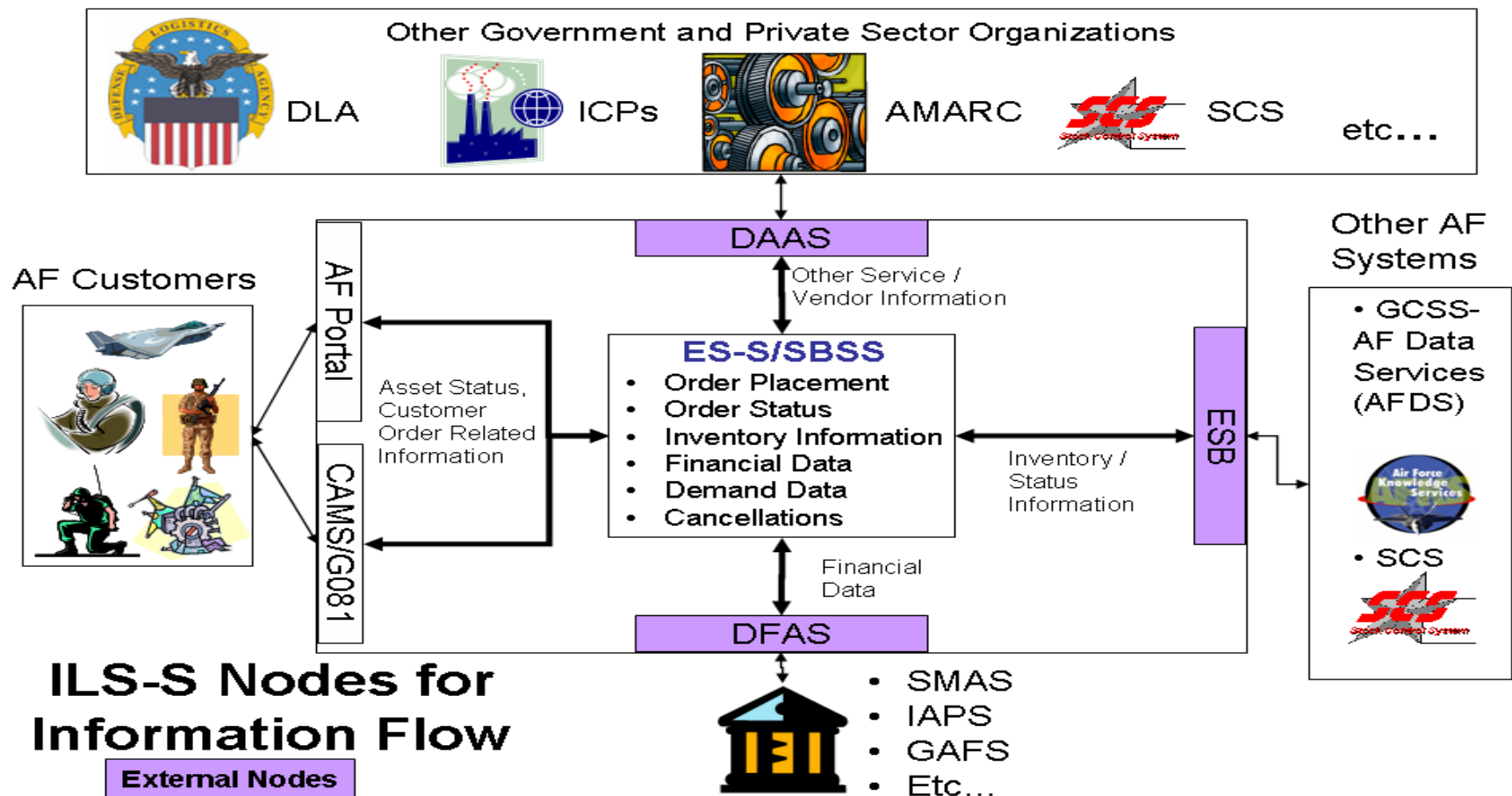
Key Business Functions

- **Place/Track Customer Orders**
 - **Place/Track Replenishment Orders**
 - **Redistribute (Ship/Transfer) Assets**
 - **Return/Track Repairable Assets**
 - **Financial Accounting (Base/Organization)**
 - **Asset Accounting (Equipment)**
 - **Record and Calculate Demand Data (Consumption)**
 - **Asset Accounting (Peacetime/Wartime Inventories)**
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Information Flows

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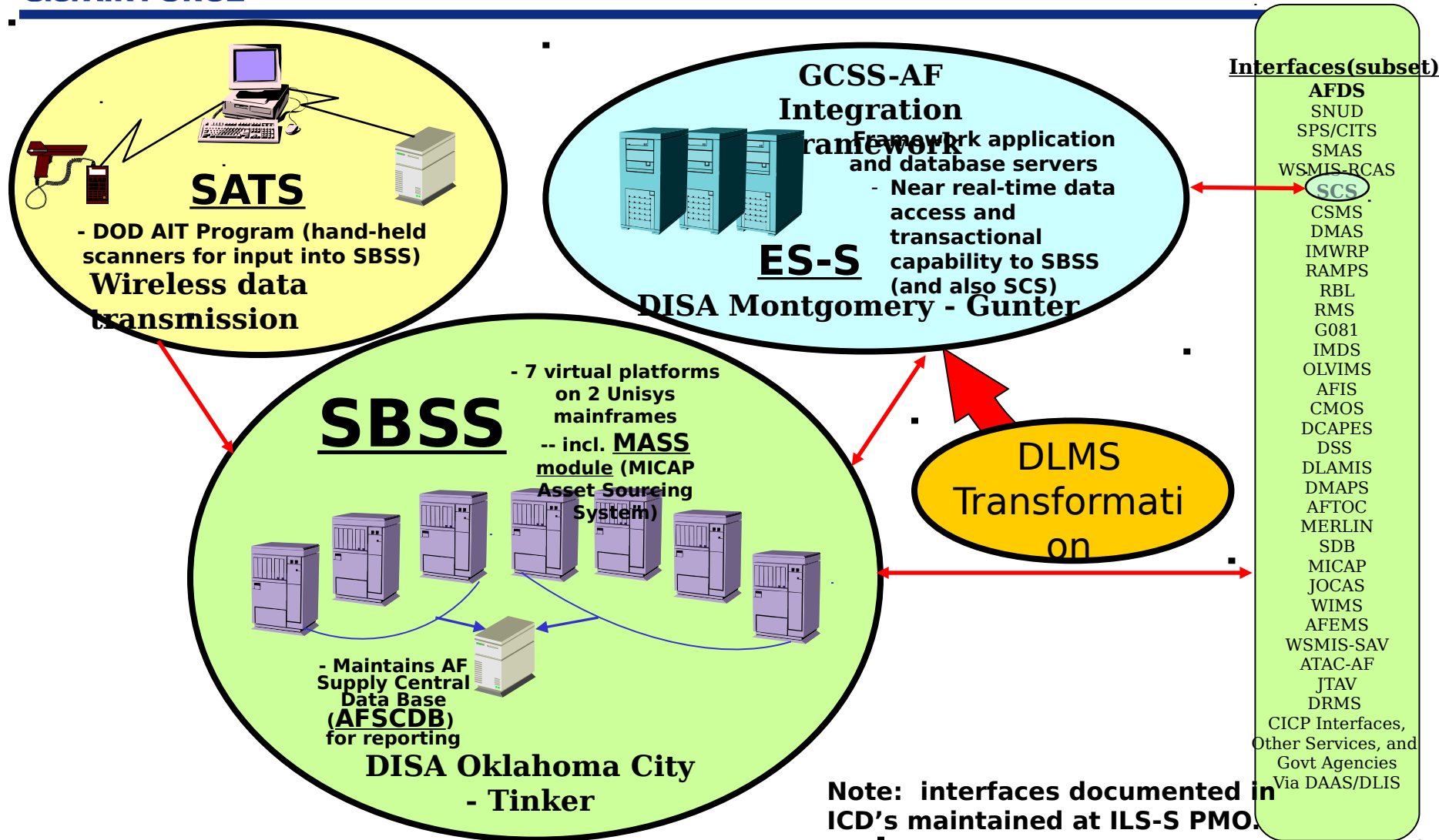


5M Transactions per month



ILS-S System View

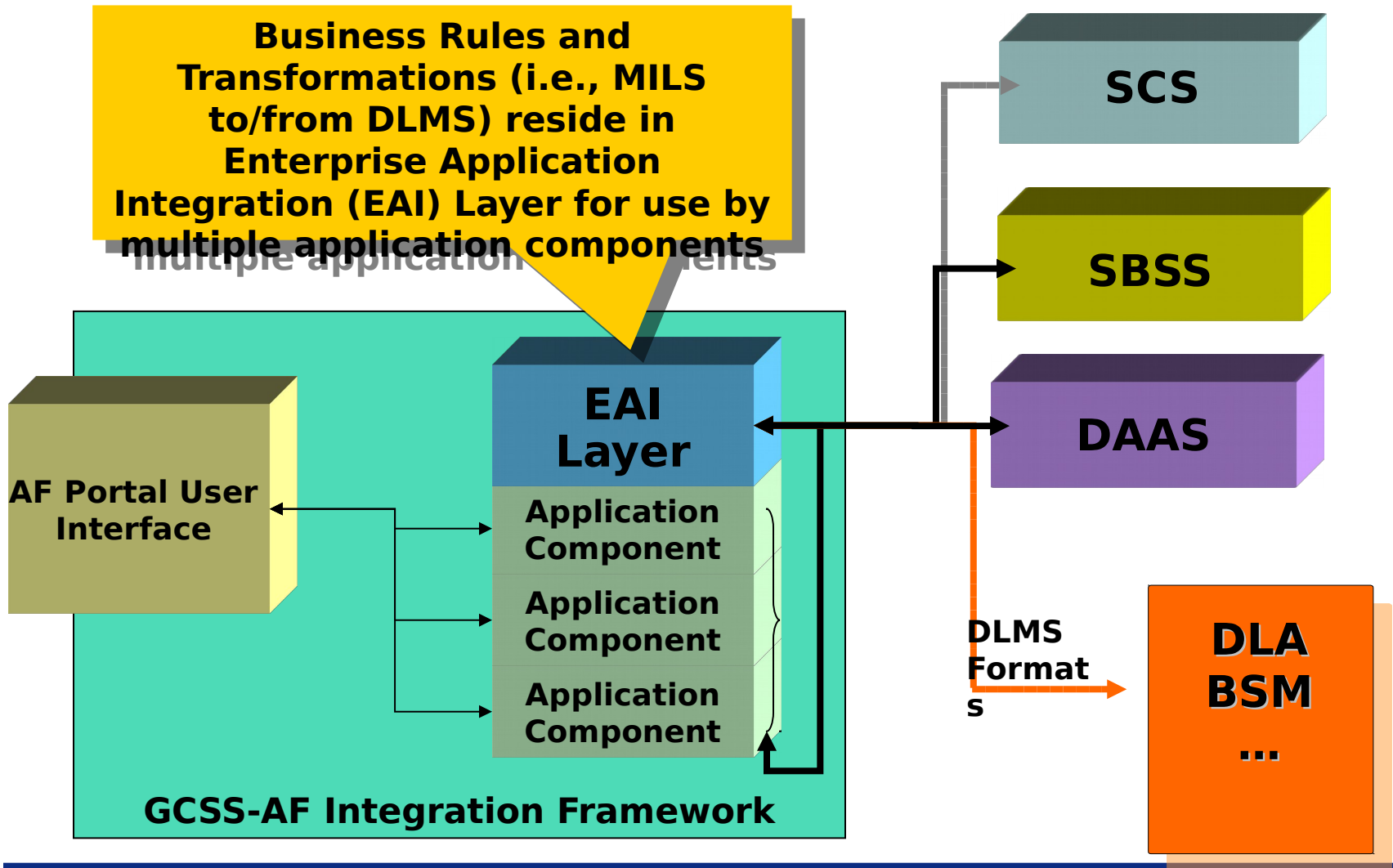
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Solution





Transactions

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■ **DLMS / MILS TRIC/DIC (Transaction Name)**

511R - A01, A02, A04, A0A, A0B, A0D Requisition
940R - A21, A22, A24, A25, A2A, A2B, A2D, A2E Redistribution Order
940R - A41, A44, A4A, A4B, A4D Referral Order
869C - AC1, AK1 Cancellation Request of Requisition
940R - AC6 Cancellation of Requisition
870S - AE1, AE2, AE3, AE4, AE9 Supply Status
945R - AE6 Supply Status
869A - AF1, AFC, AFT Shipment Follow Up
940R - AF6, AFX, AFZ Shipment Follow Up
511M - AM1, AM2, AM4, AM5, AMA, AMB, AMD, AME Requisition Modification
856S - AS1, AS2, AS3, AS4, AS6, AS8 Shipment Status
869F - AT1, AT2, AT4, AT5, AT7, ATA, ATB, ATD, ATE, ATG Requisition Reinstatement
856S - AU1, AU2 Reply to Cancellation Request
527R - DRA, DRB, DRF Materiel Receipt Acknowledgements
527D - DWA Push Due-in
527R - DXB Materiel Receipt Follow-up



Transactions (cont.)

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■ **DLMS / MILS TRIC/DIC (Transaction Name)**

812R - FAE, FAF Customer Request for Billing

870M - FT6 ICP Follow-up

812L - FTB Reply to Follow-up for Credit Status

180M - FTC DLA Excess Cancellation

870M - FTD Delayed Disposition Instruction

180M - FTE Report of Customer Excess

180M - FTF Follow-up on DLA Excess

870M - FTL Excess Supply Shipment Status

856R - FTM Excess Shipment Status 812R FTP Follow-up for Credit

812R - FTP Follow up

870M - FTQ Customer Report of Excess reporting Document

870M - FTR Shipment Document DLA Excess

180M - FTT Follow-up for ICP Materiel Receipt Status

870M - FTZ Excess Shipment Receipt



Lessons Learned

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1. LESSON: Do NOT try to migrate too many transactions at one time!

- As other systems migrate to DLMS, they should initially focus on a small set of transactions to migrate. We selected Eighty (this is about one half of our total SBSS Legacy transactions)--turned out to be a much bigger job than expected!
- This really impacted the amount of man-hours (time) required in all phases – requirements development, construction, testing. There will some (10 or less) transactions that may not make our initial delivery due to us just running out of time to get the conversions 100% correct.

2. LESSON: Do NOT rely solely upon documentation for data formats.

- Validate the data in your MILS transactions. We found that some of our documentation was not up to date; thus what we actually were sending in our transactions was different from what we thought we were sending.
 - We had some data that was incorrectly mapped on our original transformation templates. We corrected this once we reviewed the actual data. We contacted DAAS and Mr. Strickler provided us with data samples. Large samples are best because they expose more transaction scenarios and allow for a fuller view of possible data combinations that your system produces.
-



Lessons Learned (cont.)

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3. LESSON: Understand the PDC/ADC Process

Ensure all selected transactions are thoroughly reviewed to allow enough time to submit and gain approval on PDCs (proposed DLMS Changes). Familiarize yourself with the following URL (lots of good information)

<http://www.dla.mil/j-6/dlmso/Programs/Committees/Supply/supplyPRC.asp>

{See next chart for PDC Status Sheet for our Project.}

4. LESSON: Build flexibility into your conversion software to allow for easy modifications to transaction conversions!

- With ES-S we used a Library of DLMS Transformation Templates (Inbound/Outbound). Admin User Interface screen allows the checking out and checking in of new templates as well as the configuration management of the templates.
 - During development, this actually extended our test time by 2 months to allow for additional testing of conversion templates. During production, we are able to react to any mapping changes quickly by updating DLMS transformation logic on a template and loading that into our library -- without having to release a new version of software.
-



Lessons Learned (cont.)

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(LL # 3 continued – PDC Status Sheet)

Air Force Propose DLMS Change Status								
#	PDC#	DLMS	MILS	Transaction description	Current Status (Date)	Previous Status (Date)	Submit Date	REASON
1	278	511R	AM(x)	Requis. Modifier	RE-submitted with addition. (29 Oct 07)	Ready For PRC (3 Oct 07)	17 Sep 07	To add Unit Price to All A0(x) transactions. Try to obtain reason why we even the unit price on these transactions.
2		511R	A0(x)	Original Requis.	Submitted	Initial Submission (3 Oct 07)	2 Oct 07	Add from RID and SOS RIC for Lateral Requisitions (Air Force Base to Air Force Base). [Note 12]
3	282	511R	A0(x)	Original Requis.	DLA Coord. (29 Oct 07)	Initial Submission (3 Oct 07)	2 Oct 07	AF Part Number Requisitions that have the TO number in the nomenclature have the TO on the A0B, A02 beginning in pos 67.
4		940R	A2(x)	RDO	N/A	Not Needed	N/A	Add Suffix Code to RDO's ; this is in our format – NOT NEEDED
5		869C	AC1	Cancellation	Submitted	Initial Submission (3 Oct 07)	2 Oct 07	Add Excess Cause code Transaction.
6		869C	AC1	Cancellation	OBE (29 Oct 07)	Initial Submission (3 Oct 07)	Need to Combine this one with #1. Waiting for response from Ellen. (29 Oct 07)	Add Unit Price to Transaction.
7		940R	AFX AFZ	Initial Disp. Confirm. FUP Disp. Confirm.	Submitted	Initial Submission (3 Oct 07)	3 Oct 07	Pos 67-80 are normally blank for MILS format; but AF uses these for TCN, GBL, Mode of shipment ad date available for shipment.
8		856S	AS3	DRMO Ship Status	Submitted	Initial Submission (3 Oct 07)	3 Oct 07	Transfer Priority, Unit price, TCN fields – AF and DoD MILS do not correspond.



Lessons Learned (cont.)

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5. LESSON LEARNED: Use of DAAS/DSS inbound Transaction Migration Control Table to control which transactions are sent to which SBSS SRANs (AF Host Bases).

- This allows our system to select/control only those transaction types that our system wants to receive in DLMS. Other transactions will still be sent in MILS.
- Additionally, we can limit where these DLMS transactions are sent – this is going to be especially helpful during our user acceptance testing; here we want to limit the number of total transactions, so we can better assess those transactions being transformed.

6. LESSON LEARNED: Use of an outbound control table similar to the inbound table described in #5.

- Control by TRIC and outbound destination those transactions to be transformed into DLMS formats.
 - This allows our system to select/control only those transaction types that our system wants to send out in DLMS. Other transactions will still be sent in MILS. Additionally, we can limit the DLMS transformation by destination RID. Again, this is going to be especially helpful during our user acceptance testing.
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Lessons Learned (cont.)

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7. LESSON LEARNED: DAAS Profiles are established for several reasons:

- Routing of DLMS to system commri established to route inbound DLMS. This must be part of the system profile. All DLMS transactions will be routed to a single commri in ES-S. From there, ES-S determines which Air Force SBSS account the transaction should be sent to based upon RID/DoDAACs in the transaction. This is different from MILS transactions, which are routed to one of about 80 commri's (Host SBSS accounts).
 - Defining which DLMS transactions should be sent to your system, e.g.
ES-S will only accept the A4(x) transaction (Referral Order) as a 940R. This exception must be part of our profile.
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Lessons Learned (cont.)

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8. LESSON LEARNED - TEST STRATEGY:

- **Establish a solid Test Plan early!**

Determine how testing will be conducted; include resources needed

- **Establish testing partners early !**

For our system, all inbound and outbound flow to/from DAAS, so DAAS was our only testing partner. Due to the large number of transactions that we selected to migrate—we spent a lot of time in unit testing (developmental). This gave us a late start in our functional system testing; but we have been able to recover.

- **Obtain a thorough understanding of where your data goes during test and how you will evaluate the accuracy of your DLMS conversion**

Discuss test strategies with DAAS personnel; they are the experts – they know the intricacies and the limitations of the test box.

- **Limit the total number of transactions during initial testing** - this will allow for a quicker turn around; especially during the initial inspection of the transactions.



Future DLMS Enhancements

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- **Definition:** business process improvements that will exploit MILS to DLMS transaction conversion capability. The original MILS transaction data, together with additional data will form a data enriched DLMS transaction. The additional data may be obtained from:
 - GUI input - the user will be prompted to enter applicable data on a screen when placing or modifying an order.
 - ES-S record - data is extracted from an existing ES-S record and written in the DLMS transaction.
 - SBSS record - ES-S will query the SBSS to extract data for updating designated data fields in the DLMS .xml transactions.
 - Information from Radio Frequency Identification (RFID)/bar-coded data tags that cannot be accommodated by Legacy MILS transaction formats.
 - **Benefits:** The additional data communicated via “enhanced” DLMS .xml transactions will be used by receiving systems at both the retail and wholesale levels to provide better logistics and operations management processes across the enterprise
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Future DLMS Enhancements (cont.)

1) Add weapon system name/designation to requisition

The weapon system name/designation will also be included on other associated requisition transactions; such as modifiers and re-instatements. [511R, 511M]

2) Add Aircraft Tail Number on requisitions

- The aircraft tail number will also be included on other associated requisition transactions; such as modifiers, re-instatements. Aside from tail numbers for aircraft we will also add vehicle registration numbers, aerospace ground equipment (AGE) serial numbers, and segmented stock identifiers (for wartime spares and forward stock locations (FSL).
 - The objective is to provide information on the requisition that clearly indicates the end item application. We will also include data identifying segmented stock (Readiness Spares Packages (RSP), supply points, etc) requirements. [511R, 511M]
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Future DLMS Enhancements (cont.)

3) Add plain text urgency/priority on requisitions

- Clearly communicate the urgency/priority of the requisition by including plain text phrases on the DLMS transaction for high priority requisitions. Current legacy transactions do not always clearly indicate the priority or type of requirement because codes are either ambiguous or are overwritten by legacy systems program logic.
- This requirement is very important to DLA inventory managers. Additional data would also be included on requisitions modifiers, and re-instatements). [511R, 511M]

4) Add item identification data to better track reparable items:

Include serial numbers, plain text phrases or codes indicating why an asset failed in DLMS “DWA” transactions. This feature will allow for the tracking/identification of bad actors (LRUs that fail more often than they should based upon engineering data). This data will be entered into ES-S through a user interface and written to asset management data records. [527D]



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Future DLMS Enhancements (cont.)

5) Add part number data to allow the electronic transmission of part-numbered requisitions

- The additional data carried on the DLMS transaction will enable the electronic communication of data required for part-numbered requisitions that currently cannot be submitted electronically (A05, A0E). Today we must manually input part number and associated data, required for the part number requisition, into a manual form and mail or call it in to the source of supply – tomorrow we will use DLMS!
 - The new process will allow the user to enter this data via a new input screen in ES-S, which will automatically populate the DLMS transaction and electronically transmit it to the source of supply. This transmitted DLMS transaction will include all part number requisition data, including the additional data that currently cannot be accommodated by the legacy supply system. [511R, 869F]
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Future DLMS Enhancements (cont.)

6) Add RFID and IUID to selected asset transactions

Be able to store and process RFID and IUID tracking numbers on various DLMS transactions. This effort will include ES-S user interface integration with both a data entry and data upload feature, the ability to receive RFID/IUID inbound DLMS data, and the display of RFID/IUID data on the ES-S user interface. [856S,527R,527D]

7) Add repair data to DLMS transactions for contractor managed items

- Include the commercial sales order data on unserviceable shipment transactions for parts being returned for repair that are managed by a contractor. The commercial sales order data is the authority to repair the asset. This data is required by the Repair Facility prior to induction (repair) of the part.
 - Currently, this data is managed awkwardly via manual processes--we would benefit greatly by automating this process; we would be able to reduce the total repair time for parts where delays were due to missing authority to repair data. [527D,867I]
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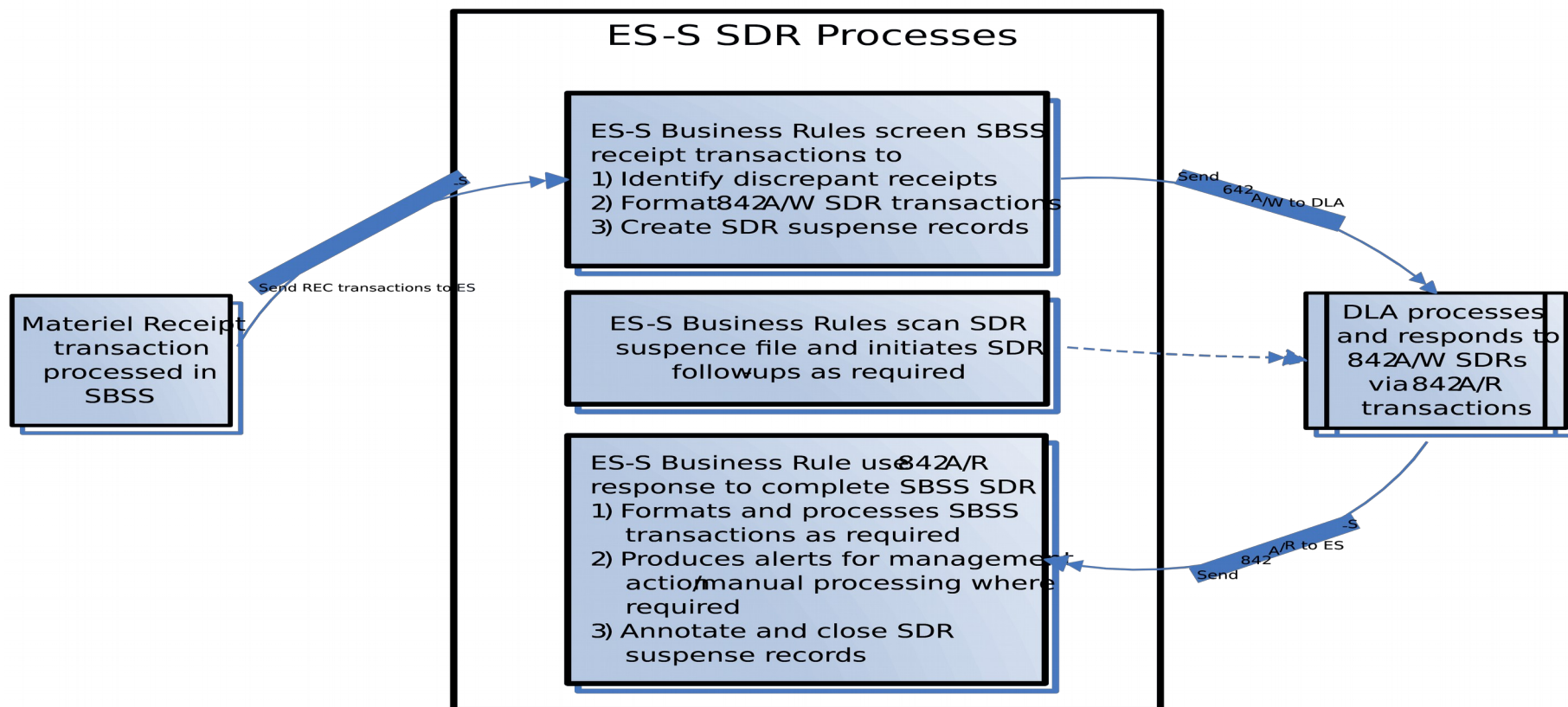
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Future DLMS Enhancements (cont.)

8.

ES-S Implementation of WebSDR process

4/3/2008





Milestone Schedule

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Funding Received	Apr 2007
Contract Award	May 2007
Requirements Analysis	May / Jun 2007
Design	Jun / Oct 2007
Construction (Development)	Oct 07 / Jan 2008
Unit testing	Nov 07 / Jan 2008
Acceptance testing	Jan / Mar 2008
QTE - Qualification Test & Evaluation	Apr 2008
Security and GCSS AF Certification	May / Jun 2008
UAT - User Acceptance Testing	Jun 2008
Implementation complete	30 Jun 2008

ILS-S in the Combat Support Tail

Aircrew Equipment

Avionics Components

Airframe Components

Engine Components

ECM

**Munitions
Components**

**Base Level
Infrastructure,
Supplies and
Support
Equipment**

**YOU CAN'T FLY WITHOUT
SUPPLY**

